

2006 CCRTS

THE STATE OF THE ART AND THE STATE OF PRACTICE

In Search of an Effective C2 Architecture for Counterinsurgency Operations: Lessons from the Colombian Experience

Lessons Learned, Concepts and Organizations, Social Domain
Issues

Román D. Ortiz, Nicolás Urrutia*

Nicolás Urrutia
Universidad de los Andes
Departamento de Ciencia Política

Carrera 1E # 18A - 10
Edificio Franco, Piso 3
Telephone: (57-1) 339-4949 Ext. 3403
Fax: (57-1) 339-4949 Ext. 3202
n-urruti@uniandes.edu.co

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE JUN 2006		2. REPORT TYPE		3. DATES COVERED 00-00-2006 to 00-00-2006	
4. TITLE AND SUBTITLE In Search of an Effective C2 Architecture for Counterinsurgency Operations: Lessons from the Colombian Experience				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) University of the Andes, Department of Political Science, Frank Building Floor 3, Carrera 1E #18A-10, Bogota, Colombia, ,				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES 2006 Command and Control Research and Technology Symposium					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 12	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Abstract

In recent years Colombia's security forces have manifested an increased interest in C2 technology, multiplying programs to upgrade existing platforms and acquire new ones. Despite budget constraints, however, it seems that system design and procurement efforts have lacked sufficient coordination. Evidence suggests that the pursuit of separate –and often incompatible– C2 platforms has hindered progress towards successful joint and inter-agency cooperation. Given the nature of Colombia's armed conflict and the existence of joint and inter-agency operations doctrine since the 1970's, the current state of affairs seems quite a paradox. This paper proposes that much of the current situation results from two primary sources: 1) the persistence of considerable differences among the security forces' strategic visions of their role in the Internal Armed Conflict and the nature of the illegal armed groups, and 2) the civilian leadership's unwillingness and/or inability to play an active role in the C2 process. The paper reviews the evolution of C2 concepts across the Colombian security organizations, both civilian and military, and analyzes their impact upon the design of system architecture over time. In addition, it offers insight into the social processes that have facilitated, but mostly stonewalled, joint and inter-agency cooperation over the years.

On Counterinsurgency Theory: State of the Art

Counterinsurgency theory clearly is not a recent field of inquiry among the security studies community. Yet it is no secret that relatively little attention has been devoted to classical counterinsurgency theory and practice among the NATO community members since the end of the Cold War. It is, not surprisingly, far less visible among the community's agenda than issues such as the information revolution, network theory and, as has become most evident since 9/11, weapons of mass destruction. Many reasons have been put forth for this gradual neglect, among them the misplaced appreciation that the fall of the Soviet block would reduce the appearance of insurgent movements to minimum –and 'acceptable'– levels. It was thus that towards the mid-nineties NATO nations were still involved to some degree in mid- or low-intensity operations with characteristics somewhat comparable to counterinsurgency, but the perceived threat level was clearly not comparable to that of the Soviet era.

However appropriate or inappropriate this gradual neglect of classical counterinsurgency theory in the post Cold War world may be, the fact remains that insurgencies have not faded away as expected. Though not as visible as was the case in the 60's and 70's, old insurgent movements remain active throughout the globe and, in some unfortunate cases, have become a far graver threat than was assumed in the past. In an age of increased interconnectedness, networks and, for lack of a more precise term, globalization, insurgent threats that were once largely perceived as minor and geographically contained have shown the ability to spread their influence and operational capacity across ever-increasing distances. Local developments may become national in scale, and national-level disturbances may easily become cause for regional concern. For this reason, a renewed effort is needed in reviewing, understanding and using some of the classic tenets of counterinsurgency which have proven useful in the past but whose lessons seem to have been drowned in a debate overly concerned with information and technological issues.

On an evidently related topic, a second reason emerges for revisiting counterinsurgency theory, in a manner far more appealing and of immediate concern for NATO members. Counterterrorism has much in common with counterinsurgency. In the actual circumstances –notably coalition operations in the Middle East– such a statement is likely

taken for granted, but even if it were not the case, a number of similarities merit attention. First, the operational structure of many modern terrorist organizations is not far removed from the operational arrangements of insurgent movements, with the probable exception of the latter's need for a robust support organization among the civilian population. Second, though the principal usual targets of terrorist groups and insurgent movements tend to differ (civilian vs. military), many of them do not, and can thus be protected through the employment of similar tactics and procedures. Third, the political justification of both insurgent and terrorist attacks, regardless of its validity and credibility to an informed and impartial observer, is disseminated through similar channels and methods, once again inviting a revision of information and psychological operations doctrine for counterinsurgency. These are, obviously, but a few of the similarities that can be observed, but they seem sufficient to warrant a renewed interest in the matter of counterinsurgency. The following section emphasizes two distinct and central aspects of a counterinsurgent campaign, both of which cut across strategic, operational and tactical spheres in the C2 structure of any nation (or group of nations) involved in a counterinsurgency campaign. The first revolves around the nature of an insurgency and its inescapable effects on counterinsurgency. The second is more centered on the parameters of government action.

A Political-Military Affair

Perhaps one of the reasons for the relative distaste much of the NATO defense community holds counterinsurgency operations is precisely the fact that it falls within the ingrate grey area of 'political-military' endeavors. Most alliance members have very significant military establishments with impressive surveillance, intelligence, deployment and combat capabilities that enable their governments to engage enemies with ever-increasing precision over trans-continental distances. It is thus that one of the effects of the information age on NATO-type warfare has been a great acceleration of military campaigns. Wars and sub-war level operations have become shorter, and both the military and the general public have grown somewhat accustomed to expect quick, clean, decisive engagements with the ability to bring short-term results.

This type of expectations brought about by this change in the conduct of contemporary operations has placed a complex burden on the military and, more broadly, on governments that are either actively engaged or considering engagement in counterinsurgency-type conflicts. As is well known, the timeframe for planning and execution of conflict-related activities differs between civilian and military organizations. While the former tend to be more prolonged and general, the latter tend to be more expedient and precise. Civilians are accustomed to broad objectives and mid- to long-term results, the military is expected to deploy and win. Failure, though never welcome, may at least be accepted in civilian enterprises. The military cannot afford such luxury.

The combination of the two factors mentioned above (expectations for 'quick wars' and the clash between civilian and military policy-implementation cycles) may thus be part of the reason why NATO defense communities are somewhat skeptical of approaching the counterinsurgency arena. Post-Cold War mentalities and priorities are also likely to play a part in the process, and bitter past experiences should also be considered as contributing to the aforementioned neglect. Whatever the causes, however, the fact remains that one cannot expect to engage in and win a counterinsurgency campaign if one fails to understand that insurgencies are, first and foremost, fights for the allegiance of the local population. Failure to capture this basic, and seemingly simple, principle has brought unnecessary costs and, occasionally, ruinous defeats in the past.

The question of winning the hearts and minds of the population is not a secondary matter that should be 'attached' to military operations once heavy combat is presumed to be over, for it is the most fundamental teaching of counterinsurgency that military operations are

auxiliary to the activities of civilian branches of government, and not the other way around. This does not imply in any way that operations should succeed the civilian agencies' entry into a given territory, for in fact security conditions may well necessitate the execution of military operations prior to other activities. But it does mean that all military activity must be a clear, transparent and justifiable manifestation of a comprehensive campaign based on the effective, timely and long-term articulation of a civilian-led government policy. Military decision-making requires civilian moderation so as to avoid a disproportionate use of force, just as civilian decision-making requires military input so as to avoid wasting limited resources on areas yet to be secured.

The Need for Horizontal and Vertical Coordination

The political-military nature of insurgencies and, therefore, of counterinsurgencies brings to bear immediate implications for the organizational structures with which the government must articulate and carry out its comprehensive campaign. Thus, the strategic outcome of a counterinsurgency campaign rests very significantly on the effectiveness, timeliness and comprehensiveness of government agencies' intervention across a number of populated areas over a fairly prolonged period of time. This requires profound, efficient and continuous vertical and horizontal collaboration among all branches of government, so that local solutions may be found and implemented in a manner appropriate for local needs.

Fortunately, over the years many militaries have grown somewhat accustomed and, in some cases, quite proficient in the provision of various critical components of the above-mentioned 'local solutions', such as restoring utilities to their proper working order (or even installing them in places where no such services existed), providing medical assistance, and even training members of the local population for grass-roots, productive enterprises. The military, however, does not and should not regard this type of activities as its primary occupation and civilian agency intervention is generally better suited for most of them. Beyond that, however, civilian agencies are the most appropriate (if not, arguably, the only) organizations properly designed and equipped to set the foundations of local governance in an area that has been recovered from insurgent control. Essential processes such as elections, local-government administration and the establishment of a credible justice system for the upholding of law and order are not tasks for which military structures are designed or even easily adapted. The importance of these local services is crucial, however, for the government may not expect a recovered area to remain as such if the legitimacy of its security forces and the rule of law are not properly established.

Given the necessity for profound, efficient and continuous coordination among the different branches of government, organizational arrangements are usually required to guarantee unity of effort and efficient use of resources. In some cases, although the validity of this scenario seems limited, ad hoc accommodations may suffice for the efficient functioning of the organization. More commonly, however, formal organizational structures are necessary for the proper functioning of government bureaucracies. In this string of thought, a suggestion commonly found in counterinsurgency theory is for the government to create a collegiate decision-making body at the highest levels of government for the sole purpose of dictating, directing, overseeing and evaluating the implementation of policy for the duration of the counterinsurgency campaign. This body is usually portrayed as being presided by the head of the executive, consisting of the cabinet-level authorities from the ministries of defense, interior, finance, and counting with the participation of the heads of the military departments, the police and the intelligence agencies. Its function is to draft and oversee the implementation of policy by all agencies of government involved in the counterinsurgency campaign and to provide a high level, permanent point of contact for inter-agency coordination. This broad institutional

arrangement, though fairly common in most modern western democracies, has a key distinctive element in counterinsurgency theory: its central constitutive and operational traits must be replicated down the echelons of all government bureaucracies involved in the campaign, from the top to the very lowest level, and it must function on a continuous basis. Thus, interagency coordination is expected to take place from the strategic levels of decision-making down to the theaters of operation and, if need be, down to the tactical level of operations. Winning over hearts and minds is, after all, a process that is best done at the tactical level.

Vertical and horizontal coordination is crucial when efforts include assistance from a foreign ally

As history has shown, the end of the Cold War did not signify the end of major power involvement in the internal security issues of other nations. In fact, the argument has been made that given increased interdependence, systemic velocity and the other oft-mentioned manifestations of globalization, the distinction of 'internal' vs. 'external' security threats is no longer a clear-cut affair, thus making local threats a matter of transnational concern. Thus, not only did a number of experiences in the nineties demonstrate that international involvement in local security affairs is alive and well, but it is also worth noting that the missions and activities carried out by foreign nations in 'host' countries became far more frequent and open-ended than was the case with narrow, anti-Soviet operations of the past. United Nations peacekeeping missions more than doubled their number as compared to the Cold War era, and various other types of 'lower end of the spectrum' operations brought conventional western military forces into unfamiliar operational contexts.

It is therefore an accepted fact international security that foreign nations, and more saliently foreign powers, become involved in local-level military campaigns with some frequency. Perhaps more narrowly, it has also become apparent that said involvement implies working with local national governments and, in the worst scenarios, with sub-governmental organizations. As may be expected, this reality brings about a series of complex consequences for the conduction of a counterinsurgency campaign. As has been mentioned, one of the essential requirements of a successful counterinsurgency campaign is that government agencies perform their duties in permanent, smooth, and quasi-monolithic coordination. This task, or rather, this cumulus of different tasks, is far easier said than done, as anyone with public service experience may testify. For this reason, the organizational consequences of adding a foreign agency (or agencies) to the campaign's delicate decision-making process and, equally important, operational process of policy implementation, is one that deserves careful consideration. Though welcome and often necessary, foreign assistance in a counterinsurgency campaign may prove quite a burden on the host government if it is not structured in a careful, clear and transparent manner that guarantees the primacy of the host country's long-term security interests over the ally's presumably shorter-term interests.

The Technological Approach: State of Practice

As was briefly mentioned in previous pages, the past decade has been witness to considerable technological advances in the C2 architecture of Colombia's security forces in general and, most prominently, in that of the military and the police. The following section provides a general overview of the principal technological improvements that have been accomplished, with special emphasis on the evolution of interconnectivity and network robustness of the different services and agencies involved. For the sake of clarity, the overview is organized in a bottom-up manner, starting with the capabilities of each separate service and building up onto the capabilities of the greater network.

Autonomous Operations

The individual military services capabilities constitute the fundamental building block of Colombia's C2 technological architecture, and are thus considered the logical starting point for this overview. The following pages discuss the most relevant aspects of C2 technological innovation in Colombia's Army, Navy and Air Force, in that order.

The Army

It has become an ingrained paradigm in the collective psyche of Colombian politics to equate 'strengthening of the military' with 'increasing the Army's manpower'. However arguable that posture may seem in the light of the nature and force structure requirements of a counterinsurgency campaign, the fact is that for a significant period of time, and markedly so since 1990, every elected administration has made good on its campaign promises of enlarging the Army. This trend is particularly relevant if one keeps in mind that the country's military had historically been kept relatively small, even by Latin American standards.

This quantitative increase, and particularly so during the 1995-2005 time period which concerns this paper, has been broadly characterized by two factors. First, towards the end of last decade a decisive move was made to professionalize the Army's rank-and-file, gradually replacing conscripts serving a one to one-and-a-half year term for volunteers with a 15-year career prospect. The initial time frame for full conversion to an all volunteer force has been revised, however, due to a combination of budgetary and political considerations; the current force is roughly one-third volunteer, two-thirds conscript. The second, less fortunate, aspect of this numeric increase has been the inadequate expansion in the size of the commissioned and non-commissioned officers' corps. While the Army's troops have nearly doubled over the past 15 years, the officers' corps has remained practically static, with a somewhat similar situation facing the non-commissioned officers.

This accelerated and disproportionate increase in the Army's size has logically put considerable pressure on its C2 technological infrastructure, yet appreciable advances have been made since 1995. First, once-rare field radios have become standard equipment among infantry and counter-guerrilla units on patrol, sufficient relay antennas have been installed to cover most of the country's geography and programs are underway to upgrade platforms to military-standard encryption levels. Second, satellite communications have become available to mobile units operating throughout the country. Third, bandwidth has been increased sufficiently to accommodate regular data and image transfers among tactical units.

The Navy

In stark contrast with the Army, the Navy has not experienced the same rate of numerical growth over the past decade, with the notable exception of its Marine Corps. Observers usually point out two essential reasons for this asymmetry between the Army's marked growth and the relative stability of the other services. First, as one might expect in the face of an insurgency, the Navy's role in said type of conflict is rather limited. Insurgent forces rarely, if ever, have surface combat capabilities and fleet artillery support is rather useless in a geographical context such as that of Colombia. Second, the Navy's perception of the internal armed conflict and, more precisely, of the insurgent and paramilitary groups did not allow any incentive or inclination for active involvement in a most messy, muddy and unconventional affair. As most Latin American navies, Colombia's was historically far more inclined towards emphasizing traditional blue-water missions and the modernization of the surface fleet. In this respect, scheduled maintenance and fairly standard upgrade programs have been pursued, most notably in establishing secure and redundant radio and satellite communications between surface vessels and Navy headquarters in Bogotá.

The novel exception to the Navy's routine C2 technological procurement programs has been the rapid buildup of the Marines' capabilities. The Marine Corps, historically maintained by the Navy as a small-contingency, all-conscript body destined mostly for facility-protection duties, has received unprecedented attention over the past decade. Its has experienced a rapid, albeit far more balanced and orderly than the Army's, growth process, becoming an accepted and well-regarded element of the military's active fighting forces. Its relatively recent and well-planned growth has allowed it not only to design an appropriate C2 technological architecture from the start, but also to focus procurement resources towards modern equipment, circumventing the need to maintain large inventories of obsolete hardware. Simultaneously, its manageable force structure (roughly 1/20 that of the Army) has allowed it to provide redundant radio and satellite communications capabilities to all of its units, although data and video capabilities remain limited.

The Air Force

In the context of C2 developments in the Colombian military, the Air Force seems to fall between the technological overstretch of the Army and the calm, organized growth process of the Navy's Marine Corps. That is to say, while the Air Force has not experienced the organizational and technological pressures of doubling its size in a decade, it has not been able to capitalize on the advantages of 'starting from scratch' either.

Despite being one of Latin America's oldest air forces, Colombia's has historically been kept relatively small and under-equipped. The core of its close-air support capabilities are the result of surplus sales from US inventories in the post-Vietnam era, while its heavy fighter-bomber force consists of two squadrons of French and Israeli aircraft purchased in the mid-seventies and early eighties. Procurement efforts over the past decade have been centered on expanding the force's gunship and transport helicopter fleet, a shift in the Force's conventional claims for air superiority purchases that closely reveals its increasing commitment to air assault and troop support operations in the context of the counterinsurgency campaign.

Despite its fairly limited fleet and its recent emphasis on acquiring modern rotary wing equipment, the Air Force's C2 infrastructure remains limited. Recent advances (in no small part due to US assistance) have been made in equipping the fleet with secure communication channels and GPS locators. Perhaps most importantly, a unified C2 center has been set up in Force headquarters in Bogotá, allowing truly centralized command from the capital and decentralized execution by fleet components spread across the Force's six fighter commands. Nonetheless, technological C2 'gaps' remain in a considerable portion of the airlift fleet, and some of the more remote areas of operations still require pilots to fly with little or no C2 support.

Joint Operations

Building mainly on the capabilities of the individual services, the past decade has seen considerable improvements in C2 jointness, most notably with the recent hands-on leadership of the President himself and the formal creation of Joint Commands. The following pages address the evolution of C2 technological architecture across the national chain of command.

The Strategic-Operational Level

The President

Since the early days of independence, and reiterated in the text of the Political Constitution of 1991, the President of the Republic has been recognized as Commander in Chief of all

military forces in the land. Needless to say, the information revolution has brought about considerable changes in the manner that command functions are performed by the President, making him increasingly able to effectively exercise his command responsibilities in real-time even with regard to tactical-level operations.

Over the past decade-and-a-half, most notably, these advances have been particularly visible. The once-functional figure of the President's military attaché has become essentially ceremonial, his role as a communication channel between the chief executive and the military high command being replaced by secure landlines, satellite communications and, curiously enough, cellular phone communication with tactical commanders. Perhaps more notably, the Presidential Palace's 'situation room' has been steadily equipped with secure, real-time, nation-wide C2 capabilities, allowing for effective communications, data and video transmissions. Finally, in an unusual move in Colombian tradition, the President's new airplane has been equipped with permanent and robust C2 capabilities.

The Ministry of Defense

The office of the Minister of Defense profits from the general advances in C2 technology that have been achieved both by the Presidency (whose 'crisis room' meetings he is required to attend) and by the services individually. With respect to the latter it seems worth mentioning the obvious advantages that stem from the fact that the Ministry building houses the command headquarters of all three services and is just a block away from that of the National Police.

As in the President's case, the rapid spread of military-standards, off-the-shelf equipment from commercial vendors has brought significant ease to the Minister's ability to play a permanent, real-time role in the national chain of command. To this effect, he presently has permanent, secure, robust and mobile communication capabilities with the military high command and the National Police. Notwithstanding the above, the Minister's effective use of these capabilities for C2 purposes remains a topic of debate which we shall address later on.

The General Command of the Armed Forces

Perhaps the most salient advances in the C2 technological architecture of the Colombian military over the past decade-and-a-half have materialized under the auspices, control and close supervision of the General Command of the Armed Forces. The Command, created in the mid-50's under strong influences from US-led models on jointness, has gained particular visibility and influence since the reassignment of civilians to the post of Minister of Defense, and its major contributions to the advancement of the C2 technological infrastructure may be summed up in four chore processes, as follows.

First, at a time when each of the services was immersed in the design and development of its own C2 technological architecture, towards the end of the 1980's the General Command set the foundations for a common C2 communications network, built in such a way that even if individual service capabilities were insufficient to reach their individual service headquarters in Bogotá, 'connecting' to the General Command's network permitted overcoming said limitations. Second, through the slow but steady growth of this central network, the Command was increasingly able to positively influence the individual services' procurement standards, thus promoting gradual standardization. Third, through the parallel pursuit of both of these processes (expanding the common network and fomenting standardization among the services), the General Command over time positioned its C2 architecture as the chore functional system in the military, giving it sufficient critical mass to discourage the services from continuing pursuit of separate (and thus incompatible) capabilities; the Command's formerly small, 'contingency', 'backup' system currently is the spinal chord of all military communications. Finally, and this represents the most recent

and significant process, the creation of both permanent joint commands and temporary task forces bringing elements from all three services under the direct control of the General Commander has given renewed focus to the issue of attaining complete and permanent C2 interoperability capabilities. Emulating, and capitalizing on the gains of, the individual services' creation of national C2 centers, the General Command currently has a national joint command, control, operations and intelligence center which permits permanent, real time, secure and robust control of both the temporary and the permanent joint forces by the General Commander.

The Operational-Tactical Level

The Military Services

The ability of the individual military services to exercise effective C2 over their units has seen significant progress over the past two decades, much of which is owed to the technological and doctrinal foundations set forth by the General Command over the years. It seems pertinent, nonetheless to highlight the broad achievements, as well as the main obstacles that remain, in the consolidation of an effective, fully interoperable, C2 technological infrastructure. Given the Army's critical mass in the process, due not only to its historical precedence over the other services in its involvement in the counterinsurgency campaign, but also due to its far more extended and permanent deployment structure over the territory, the following paragraphs analyze C2 tendencies by reviewing the Navy's and Air Force's ability to operate in support of land operations.

With respect to the Navy, it has already been mentioned that its direct involvement in the counterinsurgency campaign has been a fairly recent phenomenon, the most significant element of which has been the strengthening of the Marine Corps and the creation of its riverine control capabilities. In this respect, the sheer fact that most of the Corps' technological procurement has occurred in the past 5 or so years has considerably eased the usual technical obstacles encountered in the pursuit of interoperability. The spread of military-standard, off-the-shelf C2 technologies, particularly with regard to communications equipment, has allowed the Marine Corps to 'connect' fairly easily to the General Command's network and to the Army's own tactical communications systems over secure channels. Moreover, most of the Corps' units, down to the tactical level, are equipped with sufficient C2 capabilities as to guarantee a permanent, near-real-time, secure C2 information flow with the Army's own units, albeit robustness remains a salient issue.

Somewhat in contrast with the above circumstance, the Air Force's technological C2 integration with the Army is rather less advanced. As mentioned above, a considerable obstacle to technological upgrades in the Air Force's C2 infrastructure lies in the obsolescence of a very large portion of the fleet, and markedly more so with regard to its fixed-wing components. Improvements have been made, such as the replacement of existing air-to-air communications equipment installed in the Force's close air support airplanes for air-to-ground systems compatible with those of the Army and Marine Corps, thus permitting permanent and real-time communications between ground units and supporting airpower. Nonetheless, very significant gaps remain in the process, the most notable of which is the fact that a very significant portion of the information flow is still transmitted over insecure channels, easily susceptible to interference and interception by hostile forces on the ground.

Coordinated Operations

As has long been proposed by classical theory on the matter, counterinsurgency is long-term process the responsibility of which is only partly placed on the military. Close cooperation, coordination and collaboration with the other branches of government, and

evidently so with other elements of the security forces, is crucial to the success of the campaign. The following paragraphs review overall trends and the current state of affairs in this area.

The Military and the National Police

The institutional rapport between Colombia's military services and the National Police might be summarized as an augmented example of the organizational frictions and rivalries normally diagnosed within the military services themselves. A number of historical, circumstantial and classic organizational elements have all contributed to this phenomenon, though we shall address them later on for reasons that shall then become apparent. For the time being, the analysis focuses on the technological progress and limitations of the military-police C2 infrastructure.

The Colombian National Police has experienced a growth process even more recent and accelerated than that of the Army, and its corresponding participation in the Ministry of Defense's budget has grown exponentially over the past one-and-a-half decades. Both of the above factors, combined with an ever-present hesitance regarding its due role, responsibility and operational contribution to the counterinsurgency campaign have led the National Police to gradually but surely distance itself from the military-driven arena of the Ministry of Defense. In this sense, the Police has become very independent from the military command structure over time, and one of the most obvious manifestations of this has been its growing ability to pursue –and obtain– technological capabilities that often replicate, but are incompatible with, those of the military. In terms of C2 architecture, perhaps the most telling example is the fact that the Police's information and communication network operates in parallel to the integrated network of the military, only occasionally connecting with it. Furthermore, the operational platforms of tactical police units more often than not are incompatible with those of the Army and, more gravely so, with those of the Air Force's close air support fleet. This shortcoming has recently begun to be resolved through the use of open-channel systems, a 'fix' with operational security issues that have yet to be fully addressed. The military-police C2 architecture can thus be said to be sporadic, time-delayed, and perilously insecure.

The Military, the Police and the Intelligence Service

A grimmer version of the issues analyzed above can be found in the case of interagency coordination and system interoperability between the military, the police and Colombia's civilian intelligence service. The Nation's only civilian agency and, nominally at least, the highest-ranking organization in the intelligence community, has historically been starved from proper human and technical resources. Smaller and far less institutionalized than any of the military services or the police, the civilian intelligence service has only been able to develop a limited operational capability over the course of the past decade, a process far less sustained and supported over time than those of its 'peers'. Over the past half-decade, the service has been dedicated to the gradual buildup of a dedicated, secure communications network, and even more recently it has activated a small tactical unit. A number of institutional reasons have made it a very zealous defender of its complete operational and technical independence, to the point of publicly refusing to participate in various coordinated initiatives with the military and police, a position that has ruled out the possibility of any integrated C2 architecture.

Combined Operations

For a number of reasons that should be fairly self-evident, all the advances and shortcomings of Colombia's internal C2 technological infrastructure entail concrete, short term implications for the conduction of any sort of combined operations, among which

bilateral cooperation with the US military is a critical –and arguably growing- element of the counterinsurgency campaign. The following sections highlight the principal aspects of the country's C2 technological architecture and its consequences for the conduction of effective combined operations.

The Colombia-United States Partnership

As most Latin American nations, Colombia has had a long history of military cooperation with the US, dating to the institution of the inter-american mutual assistance mechanisms of the early Cold War. Unlike most Latin American nations in recent years, however, Colombia's ties to the US military have grown markedly stronger over the past decade. This has been due both to both nations' close alliance in the war on drugs and, more recently, with the sustained trend of center-left movements whose election into power has caused both southern cone and Andean republics to distance themselves from Washington, and particularly so with regard to defense policy. Colombia has gradually become, in the eyes of many observers, the US' only dependable Latin American ally in the critical arenas of antinarcotics, defense policy and, more recently, the war on terrorism.

These circumstances have led, as is widely known, to a growing collaboration between Colombia's security establishment and the US military. The technological architecture consequences of this phenomenon merit attention on at least three key aspects. First, given that bilateral cooperation has materialized in the unprecedented flow of technical and capital assistance, the US military advisors in the country have had significant influence on the recent evolution of the Colombian services C2 doctrine and technological architecture: 'jointness', with all of its corollary, has been given a renewed priority in Colombia's procurement and training processes. Second, Colombia's own procurement efforts have been complemented with donations and sales of C2 equipment from the US military. Third, antinarcotics operations, particularly in regard to air and maritime interdiction in the Caribbean, have made combined Colombian-US operations as a routine matter, making C2 and communication flows practically seamless between surveillance, detection and interception platforms operating in Colombian territorial waters and airspace and US forces operating in international jurisdictions. Of all the technological architectures analyzed thus far, it should come as no surprise that the C2 elements of this combined effort are among the most technologically advanced and robust.

Bilateral and Multilateral Agreements

In contrast with the strong Colombia-US security cooperation, some comments must be made with regard to Colombia's limited progress in designing and implementing an effective C2 architecture for bilateral and multilateral operations in the Andean region. In this sense, many of the limitations observed in this arena must be understood in the context of two structural difficulties that are not primarily technological in kind.

First, despite a general lack of strong security dilemmas and interstate armed conflict in the region, Latin American nations have historically been unwilling and, more frankly, unable to institute effective defense and security cooperation mechanisms such as those found in other latitudes. The reasons for this historical phenomenon are far too complex for thorough analysis herein, thus let it simply be said that intrastate instability and a lack of leadership by the region's traditional powers are factors that have hindered the rise of a cooperation framework necessary for such agreements.

Second, Colombia's growing military cooperation with the US since the late 90's has been often been perceived by its neighbors as an unnecessary invitation for US military presence in the region, a perception not well-received in a continent that bears fresh memories of the American military's role in support of oppressive regimes during the Cold War. The opinion that US military presence and influence in Colombia is a sign of renewed

interventionism is quite frequent, and though differing in tone and rhetoric, an opinion voiced by governments ranging from Brazil and Chile's moderate left to Venezuela's and Ecuador's far more vociferous regimes.

The two factors mentioned above have not contributed to the rapid advance of an effective C2 infrastructure, or even a common framework, between Colombia and its neighbors. This has been the case even in spite of various initiatives actively promoted by the current administration. Of Colombia's five adjacent countries, only Brazil has recently responded to calls for greater military cooperation through combined exercises. Prospects for radical advances in the near future appear unlikely.

Lessons learned

The above patterns and trends of Colombia's procurement programs for C2 technology over the past decade seem to indicate that there are two lessons to be drawn, both of which constitute promising areas for future inquiry: first, the need for interagency coordination has been addressed through ambitious technological procurement, though questions remain as to the effective use of installed infrastructure for its intended purposes, and second, strategic-level C2 infrastructure has been privileged over tactical-level needs, which comes as a surprise given counterinsurgency's clear emphasis on the need for effective coordination at the tactical level.